Division Of Water

Date: August 7, 2003

To: Joe Hudick, FEMA

From: Andrea Gromeaux, Section Manager, Technical Services Section

RE: General Guidelines for Flood Damaged Stream Crossings

This is in response to your questions concerning permitting requirements under the Flood Control Act, IC 14-28-1 (Construction in a Floodway). You indicated in the phone conversation with me that you were interested mainly in information for stream crossing replacements and repairs. Below is detail information on General Licenses and Exemptions for stream crossings. If the project does not meet one of these exceptions to the Flood Control Act, prior approval from the Department will be required, please refer to Q#3.

Q#1 Which stream crossings do not need a permit?

Option #1: < 1 sq mile Drainage Area
Pursuant to 312 *IAC 10-1-2(c)* A Construction in a Floodway permit is not required on projects whereby the drainage area above the site is less than 1 square mile unless a dam is to be constructed as regulated under IC 14-27-7.5.

Option #2 General License criteria for State or County Highway Bridges in Rural Areas:
The Flood Control Act (IC 14-28-1) contains a provision which exempts certain bridge projects from its permitting requirement. Specifically, the Act states:
"A permit is not required for ... a construction or reconstruction project on a ***state or county highway bridge*** *in a rural area that crosses a stream having an upstream drainage area of ... 50 square miles or less ... "Therefore, in order for a bridge project to be exempt, it must:*

- *be a state or county highway department project;*
- *be a bridge;*
- *be located in a rural area; and*
- *cross a stream having an upstream drainage area of less than 50 square miles.*

The initial criterion is very specific - the structure must be a state or county highway department project.

The second requirement mandates that the project be a bridge (for this provision, the Department of Natural Resources considers a culvert to be a bridge). Projects such as bank protection, spoil

disposal, borrow pits, etc. are not automatically exempt. Anyone proposing to undertake a non-bridge related activity should consult with the Division of Water's Technical Services Section staff at 317-232-4160 regarding the applicability of the exemption prior to initiating work.

The third criterion states that the project must be located in a rural area. The phrase "rural area" is defined as an area:
- where the lowest floor elevation, including a basement, of any residential, commercial, or industrial building impacted by the project is at least 2 feet above the 100 year flood elevation with the project in place;
- located outside the corporate boundaries of a consolidated or an incorporated city or town; and
- located outside of the territorial authority for comprehensive planning (generally, a 2 mile planning buffer around a city or town).

The final criterion limits the exemption to a project crossing a stream having an upstream drainage area of less than 50 square miles. The drainage area includes all land area contributing to runoff above the project site and is determined from the United States Geological Survey 7½ minute series quadrangle maps. The Department of Natural Resources will determine the drainage area upon written request.

Note: This exemption only applies to the Flood Control Act. If a bridge is to be constructed over a navigable waterway, or over or near a public freshwater lake, a permit will be required.

Q#2: Where can log jams/debris be removed from the floodway without obtaining a Construction in a Floodway permit?

General License criteria for Log Jam/Debris Removal under stream crossings:
312 IAC 10-5-7 Exemption from licensing requirements for qualified logjam and sandbar removals from beneath bridges

Authority: IC 14-10-2-4; IC 14-28-1-5
Affected: IC 14-28-1; IC 14-29-1
Sec. 7. A person is exempted from the licensing requirements under IC 14-28-1, IC 14-29-1, 312 IAC 10-4, and 312 IAC 6 for the removal of logjams and sandbars beneath or adjacent to a bridge where:

(1) equipment is operated from the bridge or the bank within the right-of-way, with no equipment placed in the river or stream;
(2) an access corridor for the placement of equipment extends no more than fifty (50) feet beyond the right-of-way; and
(3) the logjam or sandbar to be removed is located partially or exclusively within the right-of-way.

(Natural Resources Commission; 312 IAC 10-5-7; filed Jul 5, 2001, 9:12 a.m.: 24 IR 3397, eff Jan 1, 2002)

Q#3: How long will the permit process take if a Construction in a Floodway permit is required, including those stream crossings that have already been replaced or repaired?

Replacing an existing stream crossing with an inadequately sized structure can dramatically affect the existing flood profile of the waterway, potentially resulting in an increase of future flood stages. Therefore, the Division's review of these structures can be very comprehensive.

If the replacement or repairs of a state, county, or city stream crossing are a direct result of the July 2003 flood in a declared disaster county, the Department will attempt to process requests for permits within 2 weeks from the date the **applicant has submitted all required administrative and technical information. We will process requests for permits in this manner provided the applications are received by October 1, 2003.** A list of the required information is outlined below.

Required administrative and technical information includes:
Non-Refundable Application Fee of $200.00
Proof of Public Notice
Completed and signed application form
Site Map
Disturbed Area Map
For Bridge structures:

Typical cross section of existing structure showing:
1. *dimensions of waterway opening,*
2. *elevation of the top of road profile (top of road profile should be extended to an elevation that exceeds the 100 year elevation at the site and in the same datum used to establish the 100 year flood elevation at the site, if available),*
3. *elevation of low chord of the bridge.*

Typical cross section of proposed structure showing:
1. *dimensions of waterway opening,*
2. *elevation of the top of road profile; (top of road profile should be extended to an elevation that exceeds the 100 year elevation at the site and in the same datum used to establish the 100 year flood elevation at the site, if available),*
3. *elevation of low chord of the bridge*

For Culvert structures:

Typical cross section of existing channel showing:
1. *channel bottom*
2. *sideslope*
3. *top of bank and overbank areas extended to the elevation equal to the 100-year flood or the highest recorded historic flood elevation*
4. *elevation (in the same datum used to establish the 100-year flood elevation at the site) of the top of road profile; top of road profile should be extended to an elevation that exceeds the 100 year elevation at the site and in the same datum used to establish the 100 year flood elevation at the site, if available)*

Plans showing the existing culvert(s) conditions including:
1. *number of culverts(s), shape, size, and material of culvert(s)*
2. *length(s) and skew*
3. *upstream and downstream elevations of the bottom of culvert(s) (invert) and top of culvert(s) (apex)*
4. *percent slope of culvert(s)*
5. *type of upstream headwall*

Plans showing the proposed culvert(s) conditions including:
1. *number of culverts(s), shape, size, and material of culvert(s)*
2. *length(s) and skew*
3. *upstream and downstream elevations of the bottom of culvert(s) (invert) and top of culvert(s) (apex)*
4. *percent slope of culvert(s)*
5. *type of upstream headwall*

*In addition, for some scenarios including but not limited to the following, a hydraulic computer model **may be** required to determine the impact on the 100-year flood elevation for a bridge or culvert replacement.*

1. *Road Widening*
2. *Replacement structure will block more flow area*
    a) *raising the approach roads in areas where road overflow was needed to convey floodwaters*
    b) *proposed structure opening is smaller than the existing structure opening*
3. *Replacing a bridge with a culvert*

If a hydraulic computer model is necessary to determine the project's floodway impact, the applicant is required to submit the required modeling to the Division of Water. Refer to the General Guidelines for the Hydrologic-Hydraulic Assessment of Floodplains in Indiana on the Division's website at www.in.gov/dnr/water or contact the Division for further information on model type, requirements and submission format. The Division's website also contains copies of modeling submitted to or developed by the Division for previous permit application reviews and floodplain determinations. You should refer to the listing for previous modeling. However, please be aware that it is your responsibility to confirm that any modeling you use or submit for review is consistent with current Division of Water modeling procedures, as described in the Guidelines. In addition, you must review any previous modeling or data used to see that it accurately represents the site conditions at each cross section. For your information, an increase in the 100-year flood elevation of 0.15' or more is defined by administrative rule as an adverse impact. If the hydraulic analysis indicates that your project will result in such an increase, the project will either require revision to an acceptable form or the application will be denied. If you have any questions concerning hydraulic modeling, please contact: the Engineering Services Section, Division of Water (317) 232-4160 or 1-877-WATER55.

If a hydraulic computer model is required, the value for the 100-year discharge must be verified by the Division of Water. If the hydraulic computer model is submitted to the Division of Water without an approved discharge, and the model discharge is incorrect, the model will be returned for correction without further review. Once the corrected model is re-submitted, the engineering assessment of the model for the application will be completed. The Division of Water will determine the appropriate 100-year discharge for your site upon request. If a Coordinated Discharge exists at the site, prior approval from the Division of Water is not necessary. Coordinated Discharges can be found on the Division's website at www.in.gov/dnr/water.

Q#4: Can riprap under the structure be replaced and/or minor repairs to the structure be completed without prior approval from the Division of Water?

1. Placement of riprap or glacial stone to repair scour around bridge piers and abutments and restoration of eroded streambanks within the bridge right-a-way can be completed without prior approval provided there is no reduction of the designed waterway opening of the stream crossing.
2. Resurfacing of the bridge deck and/or the approach roads is permissible without a permit from the Division provided the top of road profile is not raised above the original road surface design elevations.

If you have any questions or need further clarification, please contact me or George Bowman at 1-877-928-3755 or 1-317-232-4160.

For more information and filing an online permit application go to DNR's website at **http://www.IN.gov/dnr/water**